

### ABSTRACT

Method and apparatus for determining causal relations between a plurality of intercommunicating nodes. In various embodiments, trace data is input that describe inter-node communication. The trace data may include for each message sent between nodes a timestamp that indicates a time at which the message was sent, a source identifier that identifies a node from which the message was sent, and a destination identifier that identifies a node to which the message was sent. For each of one or more nodes, a determination may be made as to whether one or more causal relations exist between a first set of messages destined to the node and a second set of messages sourced from the node and destined to at least one other node. A causal relation may exist as a function of a probability distribution of delay values that are differences between timestamps of messages in the second set and timestamps of messages in the first set. From the nodes and causal relations a processor-readable representation is generated.